

Rocket Man

If you're a serious surfer—and Steven F. Dowdy qualifies—you act nonchalant as you bob on your board, chatting with other surfers. You don't let them see you scanning the ocean.

"You're just looking for the dark little sliver on the horizon and wondering if anyone else has noticed," says Dowdy, an HHMI investigator at the University of California, San Diego. "You want to get that wave."

You paddle on your stomach toward the incoming set of swells and choose your wave. As it rises in front of you, you turn toward shore. The water stacks up beneath your board as the belly of the swell meets the reef. When the swell begins to go vertical, you stroke once, maybe twice, to stay with it. The wave crests, then rolls, and you feel your board accelerate.

"It's an entirely different way of applying my brain," says Dowdy, who largely devotes his intellect to inventing ways to transport cancer-fighting macromolecules across cell membranes. "You're really focused. You do *not* want to get slammed on a coral reef or get hit on the head by a 20-foot wave."

As your surfboard drops over the lip of the breaking wave, you stand. At the bottom of the wave, you turn your board parallel to the wall of water. The moving water grabs the surfboard fins and shoots you forward through the liquid tube. It's like getting shot out of a rocket. Once you know you are free and clear, you're just screaming with joy.

Dowdy has sought out that adrenaline rush all over the world—as far as New Zealand, Indonesia, and Europe. On a trip to Portugal, when his family hit a beach with lackluster waves, a



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local surfer, who turned out to be a chemist, showed them a better beach. Dowdy later hired him.

Most often, though, Dowdy surfs four blocks from home. He walks down to South Bird Rock in La Jolla, carrying one of nine custom surfboards under his arm. (He buys mostly blue boards, on the theory that his wife, computer scientist Lisa Dowdy, might not notice a new one when it shows up in the "board room," their converted garage.)

Dowdy often surfs with his son and daughter. (Lisa gave up surfing after a board broke her nose.) He celebrated Connor's 2007 high school graduation with a surfing trip to

Sumba Island, Indonesia, where the two also volunteered at a malaria clinic. In July, he plans another graduation trip to Sumba, this time with Kelsey, who is captain of her high school surfing team. Of surfing with his kids, Dowdy jokes, "I'm getting concerned, because they're starting to take waves that are *my* waves."

Raised on Naples Island in southern California, Dowdy first stood up on a surfboard when he was 7. By age 11, his parents let him leave the house at dawn to surf with his buddies before school. The boys would let their motorboat drift until they were far enough offshore to avoid waking the neighbors

Ted McGrath



with the revving motor. The friends have been reuniting to surf every year since one of the group died suddenly at age 38.

Dowdy throws a summer beach party for his research team and neighboring labs, where novices line up for lessons. Granted, a beginner may only stay upright for a second, says Dowdy, but “once you get someone standing up, they’re just howling, having a blast.”

—Cathy Shufro



WEB EXTRA: Visit the *Bulletin* online to see video footage of Steve Dowdy and his son surfing off Sumba Island.

Play On

Lacing up his fútbol shoes, for biochemist Fernando Goldbaum, is the first step in rebooting his brain. After that, he may look like he’s just kicking a soccer ball. But as he dribbles, passes, and shoots, he’s uncluttering his mind, the better to concentrate when he gets back to the lab.

“Soccer is very important for me,” says Goldbaum, an HHMI international research scholar at Leloir Institute in Buenos Aires. “Without any doubt, it clears my head.” That’s why, at least once a week, he and about a dozen researchers, fellows, and professors from the institute meet for an after-work match at a nearby indoor field.

Other sports offer fitness, competition, and social interaction, but they’re mere exercise. Fútbol (we call it soccer) is one of Goldbaum’s two lifelong passions—and a family tradition. “My father played soccer and was also a referee,” he says. “And I have an uncle who played professionally, a goalkeeper in the Argentinean leagues for 20 years.”

A devoted amateur player since childhood, Goldbaum has downshifted from the full outdoor field to the smaller indoor pitch without regret. At age 48, “The main thing is that, for 90 minutes, you can keep playing with people 10 or 20 years younger than you are. On the big field, that’s almost impossible.”

Goldbaum’s second passion, of course, is science. As a small boy, “I used to make little experiments at home and at school.” He recalls masking the surface of a leaf with a disc of foil cut from the seal on a wine bottle. “You leave it on the leaf for a week, and when you remove it, you have a green leaf with a white circle where the chlorophyll has disappeared, due to the lack of sunlight. That was astonishing for me.”

Decades later, sunlight still fascinates. He and his team are developing vaccines based on their discovery that blue wavelengths in sunlight activate proteins that drive the spread of brucellosis, an infectious disease that costs the Brazilian and Argentinean cattle industry \$100 million a year.

The peak moments come, Goldbaum says, when the rewards of the lab and the playing field converge. “One match I’m still proud of was during the first congress of the Protein Society’s Latin American chapter, in Angra dos Reis, Brazil. We organized a match between the Brazilian and the Argentinean researchers. Brazil produces some of the best players in the world, so you can imagine how my team felt when, at the end of the congress, they announced the final score: we beat Brazil, 6 to 3, on their home ground.”

As a fan, he says, “I’ve always followed the Buenos Aires team called Racing Club. They went for many, many years without a championship. Finally, in November of 2001, they won the local cup for the first time in almost 40 years—exactly when I received my first HHMI fellowship. Now, that was a time for celebration.” —George Heidekat

Tools of a
Successful
Biochemist:



goggles.



fancy
diploma.



Labcoat.



microscope.



beaker.



brain release
device.